

# Claims

- [c1] 1. A diagnosis system for diagnosing a failure in an electronic device, comprising:
- a defect table that associates previously studied features with known failures; and
  - a fault isolation system that compares an inputted set of suspected faulty device features with the previously studied features listed in the defect table in order to identify causes of the failure.
- [c2] 2. The diagnosis system of claim 1, wherein the previously studied features are selected from the group consisting of: net names, instance names, cell names, physical attributes, logical attributes, presence of a feature, and absence of a feature.
- [c3] 3. The diagnosis system of claim 1, wherein the previously studied features comprise physical attributes of the device.
- [c4] 4. The diagnosis system of claim 1, wherein the previously studied features comprise logical attributes of the device.

- [c5] 5. The diagnosis system of claim 1, wherein the inputted set of suspected faulty device features is generated from a simulation program.
- [c6] 6. The diagnosis system of claim 5, wherein the inputted set of suspected faulty device features comprises a list of net names.
- [c7] 7. The diagnosis system of claim 1, further comprising a table update system for maintaining and updating the defect table.
- [c8] 8. The diagnosis system of claim 1, further comprising a simulation program for simulating the operation of the device.
- [c9] 9. A method for diagnosing a failure in an electronic device, comprising:  
simulating the operation of the device;  
determining a set of features in the device from the simulation that are potentially causing the failure;  
providing a defect table that associates previously studied features with known failures; and  
comparing the set of features with the previously studied features listed in the defect table in order to identify a cause of the failure.
- [c10] 10. The method of claim 9, comprising the further step

of performing a failure analysis on the identified cause of the failure.

[c11] 11. The method of claim 10, wherein the failure analysis comprises a physical analysis.

[c12] 12. The method of claim 10, wherein the failure analysis comprises a simulation that analyzes a fault signature.

[c13] 13. The method of claim 9, wherein the set of features and previously studied features comprise net names.

[c14] 14. The method of claim 9, comprising the further step of updating the defect table with analysis results.

[c15] 15. A program product stored on a recordable medium for diagnosing a failure in an electronic device, comprising:

means for storing data that associates previously studied features with known failures; and  
means for comparing an inputted set of suspected faulty device features with the previously studied features listed in order to identify causes of the failure.

[c16] 16. The program product of claim 15, further comprising means for updating the storing means.

[c17] 17. The program product of claim 15, wherein the previ-

ously studied features and the inputted set of potentially faulty device features are selected from the group consisting of: net names, instance names, cell names, physical attributes, logical attributes, presence of a feature, and absence of a feature.

- [c18] 18. A method for fault diagnosis of a failing device, comprising:
- determining data for suspected locations and features of a fault;
  - entering the data in a table;
  - performing a fault diagnosis;
  - iterating through the above steps for further failing devices having further faults.
- [c19] 19. The method of claim 18, wherein the fault diagnosis comprises examining data in the table.
- [c20] 20. The method of claim 18, comprising the further step of entering data in the table resulting from said fault diagnosis.